# CATARACT

## IN THE MADRAS PRESIDENCY
## SOUTHERN INDIA

WITH A

*TABULAR STATEMENT OF FIVE HUNDRED CASES*

BY

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# CATARACT.

THE subject of Cataract is one that has been so ably handled, and so fully treated by ophthalmic surgeons practising in different parts of the world, that indeed there seems to be little, if anything, new to be submitted to the profession concerning this most interesting lesion. Surgeons, however, practising in India, have a very large experience in the operative surgery of the eye; and I have taken advantage of 'times of rest and leisure' during furlough from Madras to state the results of my experience gained in the excellent Ophthalmic Hospital of that city. The institution belongs to the State, and is maintained entirely at the State expense. Some idea of the practical work of this hospital may be formed, when I mention that it has eleven wards (or eighty beds) for patients of all creeds and castes of either sex; and an out-patient department, with a daily average attendance of over 120 individuals. The professional duties are carried on by a surgeon of the Indian Medical Service, who is termed the superintendent, assisted by a qualified assistant-surgeon of the subordinate service, and two qualified native hospital assistants. All operations, both major and minor, are performed (as is the practice in all hospitals in Great Britain and the Continent) by the superintendent alone. It will be seen, therefore, that such a large amount of work could not be overtaken except by well-arranged methods, and careful organization, and prompt action. The one regret, experienced by many members of the profession in the service of the State in India, including myself, is that the work is too heavy;

and when hospital duties are coupled with those of lecturing in college, and extend over several hours of the day, there is very little leisure for private study, or for any work which entails much reading and writing at home. To add to this, one must not forget the climatic conditions one works in. Only those who live and work in tropical India can realize the weariness at the end of each day's 'hard labour,' and considering that one's work must be attended to throughout each year with rare opportunities of rest and change, it seems to me, when I 'stay and reflect,' that I marvel how it is done. If medical officers in the East had sufficient time and leisure, and I must add inclination (for the climate takes it out of you), to publish their experiences, medical literature and knowledge would be much enriched. Furlough to Europe is one's real holiday; and yet, after a month or two of rest, there comes the irresistible desire to visit hospitals, learn what is new, and keep abreast of the knowledge of the day. In recording this, my experience, of operative ophthalmic surgery, I cannot expect to much benefit ophthalmic surgeons practising in the West, though I would fain hope that there will be many points of interest to them; but I wish to be of some help to my many colleagues working in the hospitals of Southern India, with whom I naturally feel more in touch.

To revert to the practice of the Madras Ophthalmic Hospital, the number of major operations performed annually varies from 1,900 to 2,000; more than 70 per cent. of these being extractions of the lens for cataract. I may mention here that the systematic arrangement of the hospital, together with all the details of its working (even down to the smallest details of clerical and other executive duties), was initiated and conducted for years by my able and well-known predecessor, Mr. E. F. Drake-Brockman, F.R.C.S. (Brigade-Surgeon, retired), whose fame as an ophthalmic surgeon and a brilliant operator is widespread.

The beds in the hospital allotted to native patients, numbering sixty out of the total number of eighty, are almost always occupied; and cases which have been operated on are kept the shortest time possible, compatible with the safety of the eye, in

the wards, to enable the large numbers waiting for admission to be accommodated.

As a rule operations for extraction of the lens are performed on Saturdays, and discharged from hospital the following Wednesday or Thursday. In rare instances they have been discharged on the Tuesday following, and still more rarely on the Monday, i.e. forty-eight hours after operation. Only those cases that are followed after operation by iritis, or cyclitis, or panophthalmitis are allowed to remain in the wards for any prolonged period; and cases of the last-named complication are isolated. If there is any doubt as to the satisfactory condition of an eye operated on when the patient is being discharged, he is recommended to attend as an out-patient for a few days so as to be under observation. The result of every operation is determined by the state of the vision, which is tested and recorded on the evening of the day of discharge from hospital.

Referring to the tabulated record of the results of cases operated on by me, appended to this paper, I mention some facts both interesting with regard to the classes of patients operated on, and also explanatory of the headings of the record. The following is the heading of the tabular form in which I record operated cases:—

| *Year.* | *Date.* | *No. of Operation.* | *Name of Patient.* | *Age.* | *Sex, Caste, &c.* | *Form of Cataract, &c.* | *Measure of Cornea.* | *Result of Vision.* | *Remarks.* |
|---|---|---|---|---|---|---|---|---|---|
| 1892 | Nov. 5 | 1 | Ammanee | 55 | Hindu female | Cortico-nuclear right eye | 10·5 m.m. | + 10 D. = 2 m.<br>+ 16 D. = VIII Jaeger | |

The patients may be—(*A*) Europeans; (*B*) East Indians; (*C*) Hindus (observing caste principles, flesh-eating or non-flesh-eating); (*D*) Pariahs or non-caste; (*E*) Mahomedans.

With regard to *Class* (*A*), *Europeans*, I need offer no remarks, as they form a very small percentage of hospital cases, and in all respects resemble their brethren in the West as far as surgical operations and the results thereof are concerned.

*Class (B), East Indians.* These individuals are Indian born. One of the parents is European and the other Indian, or both parents are Indian descended from a former generation in which there was an intermixture of European and Indian in marriage. Or again, what is really the case in a large number of cases, both parents are Indian with no European trace, but the individuals call themselves 'East Indian' because they have adopted European dress, and so cannot be distinguished from the East Indian properly so-called. They are, as a rule, of feeble constitution in old age, their powers of endurance are below the European standard, and although they stand the effects of operation well, still they cannot be looked upon with such satisfaction or afford so hopeful a prognosis as the European.

*Class (C), Hindus.* These are natives of India, and may be divided into flesh-eating and non-flesh-eating Hindus. Among the latter class are the Brahmins, the highest caste natives, termed the 'priestly-tribe.' The Brahmins are regarded as intellectually superior to other natives; they are cleanly in their habits, particular as to their food, and as a rule enjoy better health than other Hindu people. Two diseases, however, are commonly met with amongst them, and particularly attract the attention of the ophthalmic surgeon: (1) diabetes mellitus, (2) granular conjunctivitis. Some surgeons look upon both of these as serious complications, when occurring in a patient on whom the operation of extraction of the lens for cataract is contemplated, but I cannot say I have found this to be the case. I have frequently performed extraction of the lens on patients afflicted with mature cataract in both eyes with very satisfactory results, although they were suffering from diabetes mellitus in an advanced stage, and the urine was found on examination to be heavily charged with sugar. I have never been able to satisfy my mind as to the real meaning of what is termed 'a diabetic cataract.' Granular conjunctivitis is in some ways worthy of more careful attention. When the inflammatory process is acute, that is to say accompanied with photophobia, purulent discharge, blepharospasm, and a sense of burning in the mucous membrane of the palpebral conjunctiva, operation is forbidden.

In the chronic stage, however, when there is no pain, and an absence of all symptoms referrible to active mischief, I have operated successfully, and with good results, by using the ordinary antiseptic precautions employed in all other cases, accompanied by gentle brushing of the everted lower lid with a solution of silver nitrate (strength 3 to 5 grains to 1 ounce of distilled water). This solution seems to diffuse itself over the corneal surface when the eye is closed after operation, and produces a healthy stimulation which leads to very satisfactory closure of the corneal wound. The brushing is repeated each morning when the eye is washed and dressed, until union has occurred. The normal eye of the Brahmin is as a rule a typically fine organ; its different structures are of a fine texture, its appearance is bright and clear, and operations when performed lead to most satisfactory results.

'Flesh-eating Hindus' form the largest class of patients attending hospital. They include most of the other castes, e.g. Moodeliars, Naidus, Chetties, Pillais, and Sudras. These are more robust than Brahmins, possess more muscular development, but are not so generally healthy. I think I should be right in describing them as 'coarsely-muscular' Hindus as contrasted with the 'finely-nerved' Brahmins. They are much darker skinned and more coarsely featured. The various structures of the eye are in them often very healthy, but of an inferior type to that of the Brahmin. The sclerotic coat is not so white, the ocular conjunctiva is often congested and stained brown, and the lids thick and coarse. Operations, however, are followed by excellent results even amongst this class, but possibly not with so much certainty of a happy result.

*Class* (*D*), *Pariahs*. These are natives of the lowest class having no caste principles. They eat all kinds of food; are as a rule intemperate, not very particular about personal cleanliness; and inasmuch as their means of livelihood is by manual labour, meagrely paid for, they are essentially poor. Amongst them is the class of domestic servants who are facetiously considered as being of the same caste as their masters. In point of health and constitution one meets with every degree, varying

from that of the robust hard-working 'cooly' (labourer) to the debilitated half-starved scavenger. Results of operations on this class are often very favourable, but more attention and care must necessarily be bestowed on their diet, which is often supplemented by a few ounces of country stimulant.

*Class (E), Mahomedans.* These individuals are generally fine specimens of the native. Being mostly of the fighting caste, and feeding freely on flesh and other kinds of food, they are generally constitutionally strong. They have very often, like the Brahmin, fair complexions, healthy skins, and a blood-vascular system in an equable tonic condition. The structures of the eye-ball resemble also those of the Brahmin and react favourably to operative interference.

The above five are the classes of natives more frequently met with in the hospital wards, but a few words may be said about another class of Hindus coming from the west coast of Southern India, who are termed 'Malyalis' or 'Malabaris.' These are either 'flesh-eating' or 'non-flesh-eating.' In physique they are rather of an inferior type, and in my experience a cataractous condition of the lens is often associated in them with a deterioration of function in the optic nerve; atrophic or otherwise. As this unfortunate complication deprives the eye of perception of light the extraction of the lens is consequently useless. In rare instances I have been able to improve this nerve failure by hypodermic injections of strychnine solution, and then been enabled to extract the lens with the result of useful vision; but as often I have failed in my efforts to do any good.

*Number of operations.* From May, 1892, when I was afforded the privilege of commencing work in the hospital, to July, 1895, when I left India on furlough, I had completed about 4,000 operations of extraction of the lens for cataract, all of which I have carefully recorded, and I purpose to append to this paper the record of 500 cases, with a summary of 2,000 of the same. All these cases represent patients operated on in hospital, where the operation is performed by myself, but the dressings and

after attendance are carried out by hospital subordinates under my direction. Among private patients, where from beginning to end the whole management of the case is directly under one's personal control, the operation of extraction forms doubtless one of the most successful in surgery. Of a large number of cases on which I have operated privately during three years in Madras I have had only two unfavourable results. In one of these the patient was a very old, feeble, poorly-nourished Hindu female, who was exceedingly nervous at the time of operation, and whose iris was somewhat injured at the time by her moving her head. She had lost one eye from an accident. Iritis followed, which was subdued by treatment, and after seven or eight weeks I performed an iridotomy with a result of a very fair amount of vision. She was able to move about independently in and out of her house, and in the adjoining garden. Reading was of no consequence, as Hindu ladies, excepting those of the rising generation, are not literary in any sense of the word.

The other unfavourable case was that of a Malyali (Hindu) lady on whom I operated to remove a Morgagnian cataract. The operation itself was successful, and the vision, tested by counting fingers, the day after operation, was excellent; but on the second night severe purulent inflammation took place which resisted all treatment, even of the most active kind, and the eye was destroyed by panophthalmitis.

*Management of cases, operation, &c.* I may now give an account in detail of the course pursued in each individual case of cataract, as it is dealt with from the time of admission to that of discharge from the hospital. The patient is seen in the out-patient room for the first time in the morning, and a very cursory examination is made of the lids, the puncta, lachrymal canals, &c., and the ability or otherwise of perceiving light. If this examination proves these to be satisfactory, he is admitted into the wards. His own clothing is taken from him and stored; he is well bathed, and hospital clothing is supplied. In the afternoon of the same day the assistant-surgeon takes careful notes of his medical history, examines more carefully the state

of his vision, tests the condition of his urine, and records these different facts. The next morning he is seen again by the superintendent, who verifies the facts recorded by the assistant-surgeon. Both eyes are then thoroughly cleansed with a saturated solution of boric acid morning and evening, and a drop or two of the solution of atropine sulphate, 4 grains to the ounce, dropped into the affected eye, which is now bandaged. This same treatment is carried on daily till the coming Saturday, when all operations for extraction of the lens are performed. On the morning of the day of operation the cleansing with the boric lotion is carried out as usual, and the bandage removed. Atropine solution is also dropped in, and shortly before the operation a solution of hydrochlorate of cocaine in distilled water ($4^{\circ}/_{\circ}$ strength) is instilled three times in succession at intervals of three or four minutes into the eye. The cornea is now perfectly anaesthetized, and the patient ready for operation. As a rule there are twenty to thirty patients, and often more, all ready every Saturday morning.

In the operating theatre there are two tables utilized for operation. The following dressings, lotions, and appliances are prepared beforehand :—

1. Pledgets of absorbent cotton-wool.

2. Small strips of lint made into small pads to fit over the lids.

3. Bandages 2½ inches to 3 inches wide (vide figure), of suitable length, with a slit for the nose (*n*), and three tails at each end. The middle tails ($b$ and $b_1$) are tied behind the head; the upper and lower ($a_1$, $c_1$, $a$, $c$) are tied together with one knot on either side of the head, and then the ends tied to the corresponding ones over the head and under the chin.

4. *Coochies.* These are small thin broom-sticks, 3 inches long, of the thickness of a knitting-needle. They are slit at one end, and have absorbent cotton-wool fitted into the slit and wound round the end. They thus form excellent handy swabs to clean out the inside of the lids and surface of the cornea immediately after the lens is expelled.

5. Iodoform well ground and powdered.

6. Solution of atropine sulphate (4 grs. to the ounce).

7. Solution of eserine sulphate (2 grs. to the ounce).

8. Solutions of nitrate of silver (3 or 5 grs. to the ounce).

The instruments, which are thoroughly cleansed in a saturated solution of boric acid, are kept in a small surgical tray; the knives being tested as to their points and edges. They comprise the following. Nos. 1 to 4 always required, the others rarely:—

1. Spring speculum.
2. Catch forceps.
3. Liebrich's cataract knife with curette attached.
4. Bowman's stop-needle.

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5. Iris forceps, curved.
6. Ditto cross action.
7. Scissors for snipping iris.
8. Vulcanite scoop for removing lens and re-adjusting iris.
9. Wire vectis.

*The operation itself.* (This is the operation which I saw performed always by Mr. Drake-Brockman, and I adopt it as a rule) The patient lies on his back, with the head raised and facing a window, which admits ample light. The assistant stands on the patient's right side, and the surgeon behind

patient's head. The right eye is operated on by the right hand, and the left by the left—the surgeon being ambidextrous.

1. Separate the lids by speculum in the usual way.

2. Secure the eye-ball by catch-forceps about a line below the margin of the cornea in the vertical meridian.

3. Thrust the stop-needle (Bowman's) into the anterior chamber, piercing the sclero-corneal margin at a point 2 millimetres below the horizontal tangent. The needle is directed towards the centre of the eye-ball, and then made to pierce the anterior capsule of the lens, which is lacerated in two directions at right angles to each other. The needle is now withdrawn very gently and slowly. I am of opinion that the laceration should be very delicately performed, so as to injure the lens substance as little as possible.

4. Enter the knife (with cutting edge upwards) at the same point where the needle was thrust in, and in the same direction. Depress the handle (the blade being kept on the flat above the plane of the iris) until the point is on the same horizontal line as the point of puncture. Push the blade on to its hilt (or as far as it will go without pricking the patient's nose), at the same time cutting through the cornea in the sclero-corneal margin. Finish the section while withdrawing the blade. The last stroke with the knife should be very gently accomplished, as any suddenness in the finish is likely to make the patient reflexly squeeze his eye.

5. Perform iridectomy if necessary.

6. Reverse the knife in your hand, and apply the back of the curette just above the upper margin of the corneal incision, gently depressing the upper lip of the wound. This, coupled with a little pressure of the catch-forceps below, starts the lens from its bed. As the lens escapes follow it up with the curette, stroking over the anterior surface of the cornea, using gentle pressure. This last manœuvre, when dexterously performed, clears the anterior chamber of a large quantity, if not all, of the soft cortical matter. Remove the lens, after expressed, on the curette.

7. Relax the speculum, at the same time gently elevating and drawing forward the lids, and wipe out the whole palpebral enclosure and anterior surface of the eye-ball with one or more 'coochies.'

8. Sprinkle iodoform, kept in a small sprinkler, over the eye-ball. Remove speculum.

The operation being now completed, the patient keeps the eye closed, and the dressings are applied by the assistant-surgeon. These are very simple—

1. Small strip of lint smeared with boric ointment or white vaseline laid over the lids of eye operated on.

2. Pledget of absorbent cotton-wool applied over both eyes.

3. Pad of dry lint over both the above.

4. Bandage firmly tied and well adjusted.

As there are many operations to be performed, and time is a matter of great consideration, patient No. 2 is placed ready on table No. 2 as soon as the operation on patient No. 1 is begun, and a final instillation of cocaine solution made into his eye. After removing the speculum from the eye of patient No. 1, the surgeon removes his small surgical tray to a small table on which are kept boric lotion and appliances for cleansing his instruments. This he accomplishes with the help of a servant, and proceeds at once to table No. 2, where he repeats the procedure as on table No. 1. It will be seen then that everything is arranged thoughtfully and carefully beforehand by the assistant; and the several operations, which including twenty or thirty cataracts often number forty and more in one morning, are carried through with no hitch, and with such evenness, that it affords the greatest pleasure to the operator, though requiring at the same time his watchful supervision.

While visiting different ophthalmic wards in hospitals in England and Scotland, in Germany, and elsewhere on the Continent, I have always felt under what different circumstances the work is carried on. As far as I have had the privilege of being allowed to see ophthalmic practice in the West, most surgeons I have met have had a smaller number of operations to perform

from week to week, more capable assistants to help them, and in consequence no particular pressure on their time for the completion of their hospital duties. It is very different with us. It is a stern necessity in Indian ophthalmic hospitals to work quickly, and to have everything arranged 'cut and dry.' When once the patient is on the table, no time is lost in completing the operation as quickly as possible, and yet with no hurry or bustle; and, with the dexterity which follows constant practice, it is surprising how rapidly one can execute a large number of operations on the eye. The above operation for extraction of the lens takes on an average 2½ or 3 minutes to perform, and twenty-four extractions can be performed in the hour. I have even completed twenty-six in the hour on some mornings, the assistant-surgeon finishing the dressings immediately after the operation.

It will be noticed that the above-mentioned operation, always performed by Mr. Drake-Brockman, differs somewhat from the method usually adopted, and he has, I believe, himself written fully concerning its advantages. The method usually adopted is the one I remember witnessing as a student nearly twenty years ago. In this the corneal section is made first, followed by laceration of the anterior capsule, iridectomy, and expression of the lens. Some surgeons make their section in the sclero-corneal margin, some in the corneal tissue, some in the sclerotic with a conjunctival flap. Each surgeon speaks in favour of his own method, with which he seems to be quite satisfied. This is, I suppose, natural, and accordingly it appears to me simply from noticing the details of other operations and the various steps taken by the operators, and the different instruments used, that in neatness, simplicity, and the rapidity with which it can be performed, the above-mentioned method is not to be surpassed. I may also state that I have myself tried all the methods I have both seen and read of, and although I know that no method is free from some small imperfections, and that there is great room for improvement in certain directions, still, judging from excellent and uniform results, I must rest satisfied.

*Classification of Cataracts.* Referring to the tabular form, it will be seen that the different kinds of cataract therein entered

are—(*a*) cortico-nuclear; (*b*) Morgagnian; (*c*) hard; (*d*) black; (*e*) soft; (*f*) capsular; (*g*) congenital; (*h*) traumatic. I shall make a few remarks concerning each.

(*a*) *Cortico-nuclear.* This name is applied to a condition of the lens in which the nucleus is decidedly opaque, but not firm in consistence, generally white in colour (sometimes amber or brown), and surrounded by cortical matter which is opaque but not fully so. The cortex is decidedly softer than the nucleus, and on expression of the lens a portion of it is often left behind in the anterior chamber. The cortico-nuclear is a stage between the soft and the hard cataract, and is the kind most commonly met with in patients in Southern India, whose ages varies from forty to fifty-three; while in those above this age the cataract is generally hard. It corresponds to the general or mixed cataract described in English text-books, and generally occurs in both eyes.

(*b*) *Morgagnian.* About this I cannot do better than quote the description given by Mr. Juler in his *Ophthalmic Science and Practice*, p. 253. 'A hard cataract which has reached its full development may undergo pathological softening. This usually begins in the cortical portion of the lens, which becomes more or less milky in appearance. Sometimes the fluidity of the cortical structure is such that the harder central portion (nuclear) floats about. This constitutes what is known as the cataract of Morgagni.' The only point that seems a little doubtful to me in this description is whether all such cataracts have developed into this stage through a primary condition of being 'hard.' I have met with them often in patients under the age of forty, in whom hard cataracts rarely, if ever, occur. The nucleus is particularly small in all of them; in some indeed it is so small as to become hitched underneath the iris, and almost escape detection. In dealing with them I adopt one of two methods. Firstly, if the iris is dilated to its full extent I attempt to remove the lens in its capsule, and the attempt is often successful. The result in such cases is most gratifying. Secondly, if however there is any difficulty in so doing, I lacerate the capsule, when at once the milky fluid escapes with a burst, and

carries the diminutive nucleus out of the eye. I then seize the remaining capsule, which is almost always apparent, with the ordinary curved iris-forceps, and gently drag it out, leaving a beautifully clear dark pupillary space. The extraction of this form of cataract has almost always been followed by excellent results.

(*c*) The *hard* and (*d*) the *black* cataracts can be classed together, inasmuch as the difference is merely one of colour. In both forms the lens is opaque (in the black occasionally translucent), and both cortex and nucleus are hard and inseparable. The capsule is more often adherent to the lens, and the attachments of the lens do not seem to be so firm. In extracting this kind I have sometimes found it easy to remove them without any laceration of capsule, or iridectomy. This is generally the case when, as in the Morgagnian form, I notice a full dilatation of the pupil with a very small fraction of the peripheral portion of the lens behind the iritic border. I must, however, mention that these forms of cataract have given me the worst results, and I make it a rule now to remove a portion of the iris at once, if the usual amount of gentle pressure and counter-pressure with forceps and curette fail to start the lens from its attachments.

(*e*) The *soft* cataract. This form is, as the name signifies, one in which there is little or no difference between the consistence of the nucleus and the cortex. It is soft throughout. It rarely occurs in natives over the age of thirty-eight, and is most often seen in those who are any age under eighteen. The colour of the opaque lens is either white or bluish-white, and when the pupil is fully dilated, and the eye examined by focal illumination, the capsule has a mother-o'-pearl brightness. In dealing with this kind of cataract, it used to be my practice to remove them by Teale's suction method; but I found that in many of them, even after the lens substance had been well stirred up, a considerable portion, especially towards the periphery, was firmer than I thought, and was consequently left behind. In fact the cataract appeared to be what is often described as 'lamellar' in different text-books. Hence I make it a rule now in almost all patients above the age of nine or ten, who suffer from soft

cataract, to remove the lens by the usual method followed in dealing with cortico-nuclear cataracts; but the section in the sclero-corneal margin is however made smaller.

(*f*) *Capsular cataract.* I have applied this term perhaps wrongly for want of a better term; but the condition is one which is peculiar, and I found it rarely amongst the natives. The nucleus and cortex of the lens are absent and only the capsule is left, which is opaque and obstructs vision. There is generally a calcareous deposit on the surface of the capsule. The diagnosis of the condition is not easy, but is assisted by the apparent flatness of the anterior surface of the opacity, as contrasted with the convexity of other forms of cataractous lens. When not diagnosed and laceration is made with the needle, the condition is at once made clear. The method of dealing with such cases is exceedingly simple. Instead of lacerating and making the usual section with a cataract knife, I thrust a large-sized keratome vertically downwards into the anterior chamber, and then seize the capsule with the cross-action iris-forceps and very slowly and carefully withdraw it through the section. This requires very delicate manipulation and gentle traction. Any undue force is followed by rupture of the capsule and a large escape of vitreous.

(*g*) *Congenital cataract.* I have used this term for cataracts occurring in children of six or seven years and under. In all my cases I have found both eyes affected to the same extent, and the opaque lenses are essentially soft in consistence. When the pupils dilate well under the influence of atropine and there is no history of early convulsions, and the perception of light is good, the removal of this form of cataract by Teale's suction method has been very successful. I am of opinion that the success of these cases depends a great deal on the thorough breaking up of the lens substance by the stop-needle. The needle is entered firstly on the temporal side of the cornea, and afterwards withdrawn and entered on the nasal side, and the whole of the lens thoroughly manipulated. This enables the suction to be really effectual. Chloroform is always necessary

in these cases, and the strictest attention must be paid to have instruments aseptic.

(*h*) *Traumatic cataract.* This form of cataract I have not often met with. The method of dealing with it has been by adopting appropriate treatment to subdue the inflammatory condition accompanying the trauma, and then removing the injured lens either by the usual way of dealing with cortico-nuclear cataracts, or by discission followed by Teale's suction.

*Measurement of the cornea.* This is recorded in each case, and signifies the measure of the transverse diameter of the cornea. The measure is taken by reading off the number of millimetres which correspond to the diameter of the cornea as seen through a circular plane glass on which is pasted a very thin strip of paper, on which is marked off 12 millimetres after the manner of Priestley Smith's Keratometer. The average is between 10·5 and 11·5 millimetres.

*Testing of vision after extraction.* The result of vision is tested in each case on the evening of the day the patient is discharged, and as most of the patients are discharged within one week of operation, it can be easily understood that the state of vision is not so good as it would be a month or more afterwards. It often happens that patients who have had one lens extracted for cataract return in six months or a year with a mature cataract in the other eye. In these cases it has frequently been noticed that the vision in the aphakic eye is much better than it was when the patient was discharged on the previous occasion. Vision is tested by means of two lenses, + 10 D being used for distant vision, and + 16 D for near vision. As almost all the patients are natives who cannot read English optotypes, distant vision is tested by their being able to count the miniature bulls' eyes used by Longmore, and near vision by counting Jaeger's dots. These dots are numbered from I to XIX. An example will illustrate. Suppose a patient on discharge has the following:—

$$\text{R. eye V } \bar{c} + 10\text{ D} = \frac{2\text{ m.}}{\text{M B E}};$$

$$\text{R. eye V } \bar{c} + 16\text{ D} = \text{No. X Jaeger.}$$

The above clearly means that, with the help of a convex lens of 10 dioptres, he can count the miniature bulls' eyes at 2 metres, and with one of 16 dioptres he can count No. X of Jaeger's dots at reading distance. Swellen's optotypes are used for Europeans and others who can read English.

I have mentioned before why patients are discharged so soon from hospital, viz. that the numbers seeking admission for operation are so large that an empty bed in the native wards is seldom or ever known. When patients are admitted for 'double cataract,' the second eye is operated on, on the Saturday following that on which the lens of the first eye was extracted. As a rule, in native patients, the left eye is almost always the first to be affected with cataract; a fact to which Mr. Drake-Brockman frequently drew my attention.

*Remarks.* It will be seen now that I have alluded to all the columns of my table of results except the last, which is headed 'remarks.' In this column I always note the fact of an iridectomy being performed, together with extraction of the lens; i. e. I found it necessary at the time to remove a portion of the iris to assist in the success of the operation. While attending the operations of ophthalmic surgeons both in Great Britain and on the Continent, I have noticed the majority perform an iridectomy before proceeding to expel the lens; and in trying to obtain a reason for the necessity for so doing I was told that the operator found it safer to do so. Many operators had never done otherwise, in fact iridectomy was a routine practice with them; others were beginning to think that they would like to dispense with an iridectomy, but could not make up their minds to do so. When I was in turn asked what was my practice, and replied that it was quite an exception that I ever interfered with the iris, I was greeted with remarks of various kinds. My own experience leads me to say emphatically that iridectomy is not necessary in all cases, and I have recourse to it only when there is some obstacle to the easy expression of the lens, or to a feeling of somewhat increased tension in the eye-ball. The obstacles that I have generally met with are (1) an iris which will not dilate sufficiently; (2) adhesions of the iris; (3) a bulky

lens; (4) an insufficiently large corneal incision; (5) a lens more firmly set than is usually the case, more especially in younger patients. Referring to the danger of the lens bruising the iris in its passage from the eye, I think this can be considered only in those cases where the cataract is hard and the lens bulky. I must say I have noticed that inflammation of the iris, when it does occur in my practice after cataract extraction, has been almost always in cases where the lens was hard. Hence, when I find by lacerating the capsule (as the first step of the operation) that the lens is hard, I make up my mind to remove a portion of the iris, if in addition there is the slightest difficulty in starting the lens from its position. To perform iridectomy *always* is needless and interfering; to *never* perform it is unscientific and often dangerous. 'Medio tutissimus ibis.'

Since writing the above I have had the privilege of meeting an ophthalmic surgeon in London attached to the Royal Ophthalmic Hospital, Moor Fields, and he has brought to my notice the risk of prolapse of the iris following extraction of the lens, when iridectomy is not performed. There is no doubt that this is sometimes troublesome, and I generally deal with it by excision of the prolapse the day after extraction. I regret now I have not noted the percentage of cases in which I have found prolapse of the iris occur, but I am glad of the opportunity of being reminded of the fact, which I shall especially give my attention to hereafter.

On referring to my private register of operations, I find that I performed iridectomy 190 times in 2,000 cases, which means an average of 9·5 per cent.; and further details are therein mentioned.

*Tabular record of operations, with results, &c.* (1) In entering the names of my patients, the majority of them being natives, I have only given initials, because names of natives of all castes are remarkably long and difficult to spell correctly. I have also considered the English printer, who, being quite unfamiliar with such names, would have had to face serious difficulties. Most natives, especially females, have only one name.

(2) Under the column of race and sex the following abbre-

viations occur:—H. F. or Hindu female; H. M., Hindu male; B. M., Brahmin male; M. M., Mahomedan male; M. F., Mahomedan female; E. M., European male; E. I. M., East Indian male, &c., &c.; C. N. R. E., cortico-nuclear right eye.

(3) Average per cent. of race, caste in 2,000 cases:—

| *Total number of cases.* | *Hindus, Brahmins, Pariahs.* | *Mahomedans.* | *Europeans.* | *East Indians.* |
|---|---|---|---|---|
| 2000 | 1819 | 146 | 20 | 15 |
| Average per cent. | 90·95 | 7·3 | 1 | ·75 |

(4) Average per cent. of kinds of cataract, of iridectomies, and escape of vitreous in 2,000 cases:—

| *Total number of cases.* | *Cortico-nuclear.* | *Hard.* | *Morgagnian.* | *Traumatic.* | *Congenital.* | *Black.* | *Capsular.* | *Soft.* | *Iridectomies.* | *Escape of vitreous.* |
|---|---|---|---|---|---|---|---|---|---|---|
| 2000 | 1315 | 381 | 217 | 23 | 25 | 13 | 6 | 20 | 190 | 71 |
| Average per cent. | 65·75 | 19·05 | 10·85 | 1·15 | 1·25 | ·65 | ·3 | 1 | 9·5 | 3·55 |

(5) Average per cent. of failures among race, caste, &c. in 2,000 cases:—

| *Total number of cases.* | *Hindus, Brahmins, Pariahs.* | *Mahomedans.* | *Europeans.* | *East Indians.* | *Total Failures.* | *Remarks.* |
|---|---|---|---|---|---|---|
| 2000 | 54 | 6 | 2 | 1 | 63 | A failure means that vision was lost entirely. |
| Average per cent. | 2·70 | ·3 | ·1 | ·05 | 3·15 | |

(6) Average per cent. of failures among kinds of cataracts in 2,000 cases :—

| *Total number of cases.* | *Cortico-nuclear.* | *Hard.* | *Morgagnian.* | *Traumatic.* | *Black.* | *Congenital.* | *Capsular.* | *Soft.* | *Total.* |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 42 | 12 | 4 | 2 | 3 | 0 | 0 | 0 | 63 |
| Average per cent. | 2·10 | ·60 | ·20 | ·10 | ·15 | 0 | 0 | 0 | 3·15 |

(7) Average per cent. of failures in individual races, castes, &c. :—

| *Race, Caste, &c.* | *Total number operated on.* | *Failures.* | *Average per cent.* |
|---|---|---|---|
| Hindus (including Brahmins and Pariahs) | 1819 | 54 | 2·96 |
| Mahomedans ... ... ... ... | 146 | 6 | 4·10 |
| Europeans ... ... ... ... | 20 | 2 | 10· |
| East Indians ... ... ... ... | 15 | 1 | 6·6 |

(8) Average per cent. of failures in individual numbers of kinds of cataract :—

| *Kinds of Cataract.* | *Total number operated on.* | *Failures.* | *Average per cent.* |
|---|---|---|---|
| Cortico-nuclear ... ... | 1315 | 42 | 3·19 |
| Hard ... ... ... ... | 381 | 12 | 3·14 |
| Morgagnian ... ... ... | 217 | 4 | 1·84 |
| Traumatic ... ... ... | 23 | 2 | 8·69 |
| Black ... ... ... ... | 13 | 3 | 23·07 |
| Congenital ... ... ... | 25 | 0 | 0 |
| Capsular ... ... ... | 6 | 0 | 0 |
| Soft ... ... ... ... | 20 | 0 | 0 |

(9) Number of results of V.=p. l.; and of iridectomies performed in different kinds of cataract :—

| *Kinds of Cataract.* | *Number in which V.=p. l. after operation.* | *Number of Iridectomies performed.* |
|---|---|---|
| Cortico-nuclear ... ... | 67 | 97 |
| Hard ... ... ... ... | 32 | 72 |
| Morgagnian ... ... ... | 6 | 11 |
| Black ... ... ... ... | 1 | 4 |
| Congenital and Soft ... ... | 2 | 3 |
| Capsular ... ... ... | 1 | 0 |
| Traumatic ... ... ... | 2 | 3 |
| TOTAL ... ... | 111 | 190 |

(10) The preceding seven abstracts of averages will furnish a concise summary of many points, which I could hardly expect any ophthalmic surgeon to have found out for himself. I had intended to append to this paper a full tabular statement of 2,000 cases of operations for cataract extraction, but, owing to difficulties connected with the printing and its expense, I have limited it to 500 cases. The preceding averages have, however, been worked out from my own private register, and I hope, if I am able to find leisure hereafter, to deal with the other cases I have entered in my operation book in the same manner. As far as the results go it will be seen that the number of cases in which the eye was lost was 63, and the number of cases in which the result was V.=p. l. was 111. These two together total 174 cases out of 2,000 in which respectively vision was lost, and no worse than before, and represent an average of 8·7 per cent. in which I was not able to give my patients the benefit of sight.

# 500 Cataract operations in detail, from November 5, 1892, to April 22, 1893.

| *Date.* | *No.* | *Name.* | *Age.* | *Race and Sex.* | *Nature of Cataract.* | *Diameter of Cornea.* | *Result of Vision.* | | *Remarks.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | *+10 D.* | *+16 D.* | |
| 1892. | | | | | | m.m. | | | |
| Nov. 5 | 1 | A. | 55 | H. F. | C. N.—R. E. | 10·5 | 2 m. | VIII Jaeger | |
| ” | 2 | L. | 60 | ” | ” | 12 | 1·75 m. | VI ” | |
| ” | 3 | A. | 45 | ” | ” | 11 | 1·5 m. | VIII ” | |
| ” | 4 | B. | 60 | ” | ” | 11 | 1·5 m. | XII ” | |
| ” | 5 | J. | 70 | ” | ” | 11·5 | 2·5 m. | VI ” | |
| ” | 6 | V. C. | 56 | H. M. | ” | 10·5 | 2·5 m. | VI ” | |
| ” | 7 | S. G. | 60 | ” | ” | 10·5 | 2·25 m. | VI ” | |
| ” | 8 | A. G. | 70 | ” | ” | 11 | 2·5 m. | VI ” | With Iridectomy. |
| ” | 9 | A. N. | 67 | ” | ” | 11·5 | 4·5 m. | VI ” | |
| ” | 10 | M. | 60 | ” | Hard.—R. E. | 11 | 2 m. | VI ” | |
| ” | 11 | P. V. | 55 | ” | C. N.—R. E. | 11 | 1 m. | XIV ” | With Iridectomy. |
| ” | 12 | V. | 40 | ” | ” | 11 | 4·5 m. | I ” | |
| ” | 13 | C. M. | 42 | ” | ” | 11 | 2·5 m. | VI ” | |
| ” | 14 | N. T. | 57 | B. M. | ” | 11 | 2 m. | VI ” | |
| ” | 15 | H. | 60 | H. M. | C. N.—L. E. | 12 | 2 m. | VI ” | |
| Nov. 12 | 16 | R. | 48 | H. F. | C. N.—R. E. | 10·5 | 2 m. | VI ” | |
| ” | 17 | T. | 45 | ” | ” | 12 | 2·5 m. | VI ” | |
| ” | 18 | L. | 65 | ” | ” | 10·5 | 2·5 m. | VI ” | |
| ” | 19 | N. | 60 | ” | ” | 11·5 | 2 m. | VI ” | |
| ” | 20 | Z. B. | 60 | M. F. | ” | 11 | 1 m. | XIV ” | |
| ” | 21 | V. | 60 | H. F. | ” | 10·5 | 1·5 m. | XII ” | |
| ” | 22 | A. | 60 | ” | ” | 11 | 3 m. | I ” | With Iridectomy. |
| ” | 23 | H. B. | 44 | M. M. | ” | 11 | 2 m. | VI ” | |
| ” | 24 | A. | 50 | H. M. | ” | 11 | 2·5 m. | X ” | |
| ” | 25 | S. P. | 65 | ” | ” | 12 | 2·25 m. | I ” | |
| ” | 26 | K. C. | 50 | ” | ” | 12 | 2 m. | VIII ” | |
| ” | 27 | N. P. | 65 | ” | ” | 11 | 2·25 m. | VI ” | |
| ” | 28 | P. | 60 | ” | ” | 12 | 2 m. | VIII ” | |
| ” | 29 | T. L. | 60 | H. F. | ” | 12 | 2 m. | VI ” | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nov. 12 | 30 | C. L. | 60 | H. F. | C. N.—L. E. | 12 | 1·75 m. | VI | Jaeger | |
| " | 31 | J. | 70 | " | " | 11 | 2·5 m. | VI | " | |
| " | 32 | P. M. | 55 | H. M. | " | 12 | 2 m. | VI | " | Slight escape of vitreous. |
| " | 33 | S. I. | 42 | B. M. | " | 11 | 2·75 m. | VI | " | With Iridectomy. |
| " | 34 | A. M. | 67 | H. M. | " | 12 | 4 m. | VI | " | |
| " | 35 | M. A. | 70 | M. M. | " | 11 | 1·5 m. | X | " | |
| " | 36 | V. | 40 | H. M. | " | 11 | 4·5 m. | I | " | |
| " | 37 | T. V. | 50 | " | " | 11 | 2·5 m. | VI | " | |
| " | 38 | T. L. | 50 | H. F. | " | 11 | 1 m. | X | " | |
| " | 39 | V. W. | 60 | H. M. | " | 11 | 2 m. | VII | " | |
| " | 40 | Y. | 48 | H. F. | " | 11·5 | 2 m. | VIII | " | Slight escape of vitreous. |
| " | 41 | A. L. | 60 | " | C. N.—R. E. | 11·5 | 2 m. | VI | " | |
| Nov. 16 | 42 | A. C. | 29 | E. M. | Traumatic.—L. E. | 12 | V = o. | | | Large escape of vitreous. |
| Nov. 19 | 43 | T. | 60 | H. F. | C. N.—R. E. | 11 | 2·5 m. | VI | " | Iridectomy. |
| " | 44 | H. | 60 | " | " | 11 | 2 m. | VIII | " | |
| " | 45 | P. | 55 | " | " | 11 | 2 m. | VIII | " | |
| " | 46 | Y. | 40 | " | " | 11 | 2·5 m. | VI | " | |
| " | 47 | V. | 60 | " | " | 12 | 2·5 m. | VI | " | |
| " | 48 | V. K. | 42 | B. M. | " | 11 | 3·25 m. | I | " | |
| " | 49 | N. | 60 | H. M. | " | 11·5 | V = o. | | | Mooren's operation. |
| " | 50 | N. | 60 | " | " | 11·5 | 2·5 m. | VI | " | |
| " | 51 | M. H. | 56 | M. M. | " | 11·5 | 1 m. | XIV | " | |
| " | 52 | N. N. | 60 | H. M. | " | 12 | V = pl. | | | |
| " | 53 | K. | 48 | H. F. | C. N.—L. E. | 12 | 2 m. | VI | " | |
| " | 54 | T. | 45 | " | " | 11 | 2 m. | VIII | " | |
| " | 55 | M. | 50 | " | " | 12 | 2·75 m. | VI | " | |
| " | 56 | P. L. | 65 | " | " | 11 | 2·5 m. | VI | " | |
| " | 57 | A. L. | 60 | " | " | 12 | V = pl. | | | |
| " | 58 | S. | 60 | " | " | 12 | 1·5 m. | X | " | |
| " | 59 | S. | 55 | " | " | 11·5 | 2 m. | VI | " | |
| " | 60 | C. | 50 | H. M. | " | 12 | 3·75 m. | I | " | |
| " | 61 | S. C. | 60 | " | Morgagnian.—L. E. | 12 | 2·25 m. | VI | " | |
| " | 62 | S. P. | 65 | " | C. N.—L. E. | 12 | 2 m. | VI | " | |
| " | 63 | N. | 45 | " | " | 12 | 2·75 m. | I | " | |
| " | 64 | P. | 60 | " | " | 12 | 2 m. | VIII | " | |
| " | 65 | V. | 4 | H. F. | Congenital.—L. E. | ? | V = pl. | | | Teale's suction. |
| Nov. 26 | 66 | T. | 60 | " | C. N.—R. E. | 11 | 1·75 m. | VIII | " | |
| " | 67 | L. | 60 | " | " | 12 | 2·5 m. | VIII | " | Escape of vitreous. |
| " | 68 | F. | 60 | M. F. | " | 11·5 | 2·25 m. | VI | " | |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | +10 D. | +16 D. | |
| 1892. | | | | | | m.m. | | | |
| Nov. 26 | 69 | B. B. | 50 | M. F. | C. N.—R. E. | 10 | 2 m. | VI Jaeger | |
| ,, | 70 | B. L. | 50 | H. F. | ,, | 10 | 2 m. | VI ,, | |
| ,, | 71 | P. P. | 50 | H. M. | ,, | 12 | V = pl. | | Slight escape of vitreous. |
| ,, | 72 | K. | 55 | ,, | Morgagnian.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 73 | R. K. | 60 | H. F. | Hard.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 74 | H. | 60 | ,, | C. N.—L. E. | 11 | 1·75 m. | VIII ,, | |
| ,, | 75 | P. | 50 | ,, | C. N.—R. E. | 10·5 | 2 m. | X ,, | |
| ,, | 76 | C. V. | 50 | ,, | C. N.—L. E. | 11 | 1·5 m. | X ,, | |
| ,, | 77 | G. M. | 65 | H. M. | ,, | 12 | 4 m. | I ,, | |
| ,, | 78 | K. C. | 55 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 79 | V. | 47 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 80 | V. | 50 | ,, | ,, | 11 | 3·25 m. | VI ,, | |
| ,, | 81 | M. | 45 | H. F. | ,, | 11 | Can count fingers at ½ m. | | Iridectomy (escape of vitreous). |
| ,, | 82 | S. | 55 | H. M. | Morgagnian.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 83 | Y. | 4 | H. F. | Congenital.—L. E. | 11·5 | V = pl. | | Teale's suction. |
| Dec. 3 | 84 | N. L. | 43 | ,, | C. N.—R. E. | 11 | 2·25 m. | I ,, | |
| ,, | 85 | C. V. | 50 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 86 | P. | 45 | ,, | ,, | 10·5 | 2 m. | VIII ,, | |
| ,, | 87 | T. | 60 | ,, | ,, | 11·5 | 2 m. | VI ,, | |
| ,, | 88 | L. | 48 | H. M. | ,, | 10·5 | 2 m. | VI ,, | |
| ,, | 89 | T. | 35 | ,, | ,, | 11 | 3·5 m. | I ,, | |
| ,, | 90 | F. | 55 | M. M. | ,, | 11 | 2 m. | X ,, | |
| ,, | 91 | C. | 40 | H. F. | ,, | 11 | 2 m. | VIII ,, | |
| ,, | 92 | F. B. | 60 | M. F. | C. N.—L. E. | 11·5 | 1·75 m. | X ,, | |
| ,, | 93 | B. T. | 55 | H. F. | ,, | 11·5 | 1 m. | X ,, | Slight escape of watery vitreous. |
| ,, | 94 | S. | 50 | ,, | ,, | 11 | 2 m. | I ,, | |
| ,, | 95 | N. | 54 | ,, | ,, | 10·5 | V = 0. | | |
| ,, | 96 | T. | 50 | ,, | ,, | 10 | 1·75 m. | X ,, | Mooren's operation. |
| ,, | 97 | C. | 50 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 98 | S. L. | 60 | ,, | ,, | 12 | V = pl. | | |
| ,, | 99 | S. | 60 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 100 | M. L. | 48 | ,, | ,, | 11·5 | 1·75 m. | X ,, | |
| ,, | 101 | K. | 45 | ,, | Morgagnian.—L. E. | 12 | 2·25 m. | VI ,, | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dec. 3 | 102 | V. | 60 | H. F. | C. N.—L. E. | 11 | 2·5 m. | VI Jaeger | |
| ,, | 103 | P. P. | 50 | H. M. | ,, | 12·5 | 2·5 m. | VI ,, | |
| ,, | 104 | S. P. | 70 | ,, | ,, | 11 | V = o. | | |
| Dec. 10 | 105 | A. | 65 | H. F. | C. N.—R. E. | 11 | 2 m. | I ,, | |
| ,, | 106 | S. | 50 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 107 | V. | 50 | ,, | ,, | 11·5 | Count fingers at 1 m. | | With Iridectomy (escape of vitreous). |
| ,, | 108 | S. L. | 60 | ,, | ,, | 12 | V = pl. | | |
| ,, | 109 | S. | 50 | ,, | ,, | 11 | 1·5 m. | VIII ,, | |
| ,, | 110 | B. | 16 | H. M. | Congenital.—R. E. | 12 | 2 m. | VI ,, | |
| ,, | 111 | D. | 55 | ,, | C. N.—R. E. | 11 | 2·75 m. | VI ,, | |
| ,, | 112 | S. P. | 56 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 113 | V. | 70 | ,, | ,, | 11·5 | 1·75 m. | VIII ,, | |
| ,, | 114 | A. P. | 70 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 115 | B. K. | 35 | H. F. | C. N.—L. E. | 11 | 3 m. | I ,, | |
| ,, | 116 | R. | 48 | ,, | ,, | 11 | 2·5 m. | VI ,, | |
| ,, | 117 | C. | 48 | ,, | ,, | 11 | 2 m. | VIII ,, | |
| ,, | 118 | N. | 50 | ,, | ,, | 12 | V = pl. | | |
| ,, | 119 | T. | 60 | ,, | ,, | 11·5 | 1·5 m. | VIII ,, | With Iridectomy (escape of vitreous). |
| ,, | 120 | S. C. | 48 | H. M. | ,, | 12 | 1 m. | XIV ,, | |
| ,, | 121 | L | 48 | ,, | ,, | 11·5 | 2 m. | VI ,, | Slight escape of vitreous. |
| ,, | 122 | C. K. | 60 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 123 | T. | 65 | H. F. | ,, | 10·5 | 2·5 m. | VI ,, | |
| Dec. 17 | 124 | A. | 48 | ,, | Morgagnian.—R. E. | 11 | 3 m. | I ,, | |
| ,, | 125 | A. | 55 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 126 | K. | 55 | ,, | C. N.—R. E. | 11·5 | 2 m. | I ,, | |
| ,, | 127 | T. | 65 | ,, | ,, | 11 | 2·5 m. | VI ,, | |
| ,, | 128 | K. M. | 56 | H. M. | ,, | 10·5 | 3 m. | I ,, | |
| ,, | 129 | S. | 45 | ,, | Traumatic.—R. E. | 11 | 2 m. | X ,, | |
| ,, | 130 | G. | 48 | ,, | C. N.—R. E. | 11·5 | 3 m. | VI ,, | |
| ,, | 131 | C. N. | 60 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 132 | R. P. | 54 | ,, | Hard.—R. E. | 12 | 2·5 m. | VI ,, | |
| ,, | 133 | S. | 70 | ,, | C. N.—R. E. | 11·5 | 2 m. | I ,, | |
| ,, | 134 | S. N. | 43 | ,, | Hard.—R. E. | 11 | 2 m. | X ,, | With Iridectomy. |
| ,, | 135 | G. S. | 55 | M. M. | C. N.—R. E. | 11·5 | 6 m. | I ,, | |
| ,, | 136 | K. P. | 58 | H. M. | Hard.—R. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 137 | A. | 65 | H. F. | Hard.—L. E. | 10·5 | 2 m. | VI ,, | With Iridectomy (escape of vitreous). |
| ,, | 138 | P. | 50 | ,, | C. N.—L. E. | 11 | 2·5 m. | VI ,, | |
| ,, | 139 | S. | 50 | ,, | ,, | 11·5 | 2·5 m. | VI ,, | |
| ,, | 140 | M. | 60 | H. M. | ,, | 12 | 3 m. | VI ,, | |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. +10 D. | Result of Vision. +16 D. | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1892. | | | | | | m.m. | | | | |
| Dec. 17 | 141 | S. | 50 | M. M. | C. N.—L. E. | 12 | 4 m. | I | Jaeger | With Iridectomy. |
| „ | 142 | Y. N. | 35 | H. M. | „ | 10 | 4 m. | I | „ | |
| „ | 143 | M. S. | 65 | M. M. | Hard and black.—L. E. | 12 | 2 m. | VI | „ | Slight escape of vitreous. |
| „ | 144 | V. | 70 | H. M. | C. N.—L. E. | 11 | 1·5 m. | X | „ | |
| „ | 145 | B. | 16 | „ | Congenital.—L. E. | 12 | 2 m. | VI | „ | |
| Dec. 24 | 146 | N. B. | 50 | M. F. | C. N.—R. E. | 11 | 3 m. | I | „ | |
| „ | 147 | K. | 50 | H. F. | „ | 11 | 1 m. | XII | „ | |
| „ | 148 | A. | 30 | „ | „ | 11·5 | 2 m. | VI | „ | |
| „ | 149 | O. M. | 50 | „ | Morgagnian.—R. E. | 11 | 2·5 m. | VI | „ | |
| „ | 150 | K. | 50 | „ | C. N.—R. E. | 11 | 2·5 m. | VI | „ | |
| „ | 151 | G. K. | 60 | H. M. | Hard.—R. E. | 12 | 2·5 m. | VI | „ | |
| „ | 152 | M. S. | 65 | M. M. | Hard, dark.—R. E. | 12 | 2 m. | VI | „ | |
| „ | 153 | V. S. | 65 | H. M. | C. N.—R. E. | 12 | 3 m. | I | „ | With Iridectomy. |
| „ | 154 | G. M. | 35 | M. M. | Morgagnian.—R. E. | 12 | 2 m. | VI | „ | |
| „ | 155 | S. | 45 | H. M. | C. N.—R. E. | 11 | 2·75 m. | VI | „ | With Iridectomy. |
| „ | 156 | V. | 60 | „ | „ | 11 | 2·25 m. | VI | „ | |
| „ | 157 | Y. | 65 | H. F. | Hard.—R. E. | 12 | 2 m. | VI | „ | Bulky Lens. |
| „ | 158 | A. | 55 | „ | C. N.—L. E. | 10·5 | 2 m. | VI | „ | |
| „ | 159 | A. | 48 | „ | Morgagnian.—L. E. | 11 | 3 m. | I | „ | |
| „ | 160 | S. | 40 | H. M. | C. N.—L. E. | 11·5 | 3 m. | I | „ | |
| „ | 161 | R. | 60 | „ | „ | 11·5 | 1·75 m. | X | „ | |
| „ | 162 | M. | 50 | „ | „ | 11 | 2 m. | I | „ | |
| „ | 163 | M. | 48 | „ | „ | 12 | 2·25 m. | VI | „ | |
| Dec. 28 | 164 | P. | 36 | H. F. | C. N.—R. E. | 10 | 1·5 m. | VIII | „ | |
| „ | 165 | A. | 50 | „ | „ | 11 | 3·5 m. | I | „ | |
| „ | 166 | S. | 30 | „ | „ | 11 | 2·25 m. | VI | „ | |
| „ | 167 | D. | 60 | „ | „ | 11·5 | 4 m. | I | „ | |
| „ | 168 | H. | 60 | H. M. | „ | 11 | 2 m. | VI | „ | |
| „ | 169 | R. | 55 | „ | „ | 12 | 2 m. | VI | „ | |
| „ | 170 | E. | 50 | „ | Morgagnian.—L. E. | 11 | 1 m. | X | „ | Escape of watery vitreous. |
| „ | 171 | Y. | 65 | H. F. | „ | 12 | 2 m. | VI | „ | Iridectomy. |
| „ | 172 | N. B. | 50 | M. F. | C. N.—L. E. | 11 | 3 m. | I | „ | |
| „ | 173 | K. | 50 | H. F. | „ | 10·5 | 2 m. | VIII | „ | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dec. 28 | 174 | S. C. | 55 | H. M. | C. N.—R. E. | 12 | 3 m. | VI Jaeger | |
| Dec. 31 | 175 | P. | 45 | H. F. | C. N.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 176 | A. | 30 | ,, | ,, | 12 | 1·75 m. | VIII ,, | |
| ,, | 177 | C. | 48 | ,, | Morgagnian.—L. E. | 11 | 4 m. | I ,, | |
| ,, | 178 | K. | 50 | ,, | C. N.—L. E. | 12 | 2·5 m | VI ,, | |
| ,, | 179 | Y. R. | 20 | H. M. | Congenital.—L. E. | 12 | 1·5 m. | VIII ,, | |
| ,, | 180 | G. K. | 60 | ,, | Hard.—L. E. | 12 | 2·5 m. | VI ,, | |
| ,, | 181 | P. | 60 | ,, | C. N.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 182 | S. S. | 70 | ,, | Morgagnian.—L. E. | 12 | 2 m. | I ,, | |
| ,, | 183 | R. N. | 60 | ,, | Hard.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 184 | S. B. | 45 | H. F. | Hard.—R. E. | V = pl. | | | With Iridectomy. |
| 1893. | | | | | | | | | |
| Jan. 14 | 185 | P. | 45 | ,, | C. N.—R. E. | 11·5 | 1·5 m. | VI ,, | |
| ,, | 186 | C. | 48 | ,, | ,, | 11 | 3 m. | VI ,, | Iridectomy. |
| ,, | 187 | S. | 40 | ,, | ,, | 11·5 | 1·75 m. | VIII ,, | |
| ,, | 188 | N. | 60 | H. M. | Hard.—R. E. | 11.5 | 1·5 m. | XII ,, | |
| ,, | 189 | N. | 50 | ,, | Morgagnian.—R. E. | 10 | 3 m. | I ,, | |
| ,, | 190 | K. | 50 | ,, | C. N.—R. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 191 | N. | 40 | ,, | ,, | 11 | 2 m. | I ,, | |
| ,, | 192 | S. | 60 | ,, | ,, | 12 | V = pl. | | Lens dislocated into vitreous. |
| ,, | 193 | M. | 19 | ,, | ,, | 10·5 | 2 m. | VI ,, | |
| ,, | 194 | P. | 55 | H. F. | C. N.—L. E. | 11 | 2 m. | VI ,, | |
| ,, | 195 | P. | 36 | ,, | ,, | 10 | 1·5 m. | VIII ,, | |
| ,, | 196 | M. | 40 | ,, | Hard.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 197 | L. | 60 | ,, | C. N.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 198 | A. | 50 | ,, | ,, | 11.5 | 2·5 m. | I ,, | |
| ,, | 199 | M. | 60 | ,, | Morgagnian.—L. E. | 11 | 2 m. | VI ,, | |
| ,, | 200 | G. | 35 | ,, | C. N.—L. E. | 11 | 2 m. | VIII ,, | |
| ,, | 201 | S. | 30 | ,, | ,, | 10·5 | 2·25 m. | VI ,, | |
| ,, | 202 | D. | 60 | ,, | ,, | 11.5 | 1 m. | X ,, | |
| ,, | 203 | M. C. | 55 | H. M. | ,, | 12 | 2·25 m. | VI ,, | |
| ,, | 204 | M. | 40 | ,, | ,, | 11·5 | 5 m. | I ,, | |
| ,, | 205 | R. | 55 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 206 | M. | 71 | ,, | Morgagnian.—L. E. | 12 | V = o. | | |
| Jan. 21 | 207 | C. C. | 50 | H. F. | C. N.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 208 | K. | 56 | ,, | ,, | 11 | 3 m. | VI ,, | |
| ,, | 209 | M. | 60 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 210 | R. | 22 | ,, | ,, | 11 | V = pl. | | |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | +10 D. | +16 D. | |
| 1893. | | | | | | m.m. | | | |
| Jan. 21 | 211 | N. | 60 | H. M. | C. N.—R. E. | 11 | 1·5 m. | VIII Jaeger | |
| ,, | 212 | V. | 70 | ,, | Hard.—R. E. | 11 | 2·5 m. | I ,, | |
| ,, | 213 | P. | 60 | ,, | ,, | 11·5 | V = pl. | | Iridectomy (vectis used). |
| ,, | 214 | M. | 40 | ,, | C. N.—R. E. | 11·5 | 2·5 m. | VI ,, | |
| ,, | 215 | J. H. | 65 | E. M. | Hard.—L. E. | 12 | 2 m. | Swellen I | |
| ,, | 216 | S. | 40 | H. F. | C. N.—L. E. | 11 | 2·5 m. | I Jaeger | |
| ,, | 217 | R. | 50 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 218 | V. | 50 | ,, | Hard.—L. E. | 11·5 | 2·75 m. | I ,, | |
| ,, | 219 | R. | 54 | ,, | C. N.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 220 | M. | 62 | H. M. | ,, | 11·5 | 2 m. | VI ,, | |
| ,, | 221 | C. | 26 | ,, | ,, | 11·5 | 2·5 m. | VI ,, | |
| ,, | 222 | N. | 40 | ,, | ,, | 10·5 | 1·5 m. | VI ,, | |
| ,, | 223 | S. S. | 60 | M. M. | ,, | 11 | 2·5 m. | VI ,, | |
| ,, | 224 | K. C. | 41 | H. M. | ,, | 11·5 | 1·5 m. | X ,, | |
| ,, | 225 | V. | 65 | ,, | ,, | 11·5 | 6 m. | I ,, | |
| ,, | 226 | R. | 26 | ,, | ,, | 10 | Can count fingers at 2 m. | | Escape of watery vitreous. |
| Jan. 28 | 227 | A. | 55 | H. F. | C. N.—R. E. | 10·5 | 1·75 m. | VIII ,, | |
| ,, | 228 | S. | 40 | ,, | ,, | 11·5 | 1·5 m. | VIII ,, | Slight escape of vitreous. |
| ,, | 229 | V. | 50 | ,, | ,, | 11 | 2·25 m. | VI ,, | |
| ,, | 230 | M. | 45 | ,, | Hard.—R. E. | 11·5 | 2·5 m. | I ,, | Iridectomy. |
| ,, | 231 | T. | 48 | ,, | C. N.—R. E. | 12 | 2·75 m. | I ,, | |
| ,, | 232 | V. T. | 14 | B. M. | Traumatic. | 11 | 4 m. | I ,, | |
| ,, | 233 | K. | 50 | H. M. | Hard.—R. E. | 11·5 | 2 m. | VI ,, | Iridectomy. |
| ,, | 234 | C. H. | 55 | ,, | ,, | 11·5 | V = pl. | | Escape of vitreous (vectis). |
| ,, | 235 | K. | 45 | ,, | C. N.—R. E. | 12 | V = pl. | | |
| ,, | 236 | M. | 60 | ,, | ,, | 10·5 | 1·75 m. | X ,, | |
| ,, | 237 | M. | 45 | ,, | ,, | 12 | 4 m. | I ,, | |
| ,, | 238 | E. | 50 | ,, | Morgagnian.—R. E. | 10 | 1 m. | X ,, | |
| ,, | 239 | J. B. | 69 | E. M. | Hard.—R. E. | 11 | V = pl. | | |
| ,, | 240 | B. R. | 50 | H. M. | C. N.—R. E. | 11 | V = pl. | | Escape of vitreous. |
| ,, | 241 | L. N. | 55 | ,, | Hard.—R. E. | 12 | 5 m. | I ,, | |
| ,, | 242 | C. | 50 | H. F. | C. N.—R. E. | 12 | 2 m. | VI ,, | |
| ,, | 243 | S. | 50 | ,, | C. N.—L. E. | 10·5 | 2 m. | VI ,, | |

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|---|---|---|---|---|---|---|---|---|---|
| ,, | 245 | K. | 56 | ,, | ,, | 11 | 3 m. | VI ,, | |
| ,, | 246 | C. | 60 | ,, | Hard.—L. E. | 11 | 2 m. | VI ,, | |
| ,, | 247 | M. B. | 60 | M. F. | C. N.—L. E. | 11·5 | 1·5 m. | VIII ,, | |
| ,, | 248 | M. | 50 | H. F. | Morgagnian.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 249 | S. | 40 | H. M. | ,, | 11·5 | V = pl. | | |
| ,, | 250 | V. | 12 | ,, | Traumatic.—L. E. | 11·5 | 1 m. | XII ,, | |
| Feb. 4 | 251 | S. | 50 | H. F. | C. N.—R. E. | 11 | 1 m. | XIV ,, | |
| ,, | 252 | C. | 60 | ,, | ,, | 10·5 | V = o. | | |
| ,, | 253 | M. | 50 | ,, | Hard.—R. E. | 11 | 2·5 m. | VII ,, | |
| ,, | 254 | M. | 59 | ,, | C. N.—R. E. | 12 | 1·75 m. | VIII ,, | |
| ,, | 255 | B. | 70 | ,, | ,, | 10·5 | V = o. | | Iridectomy. |
| ,, | 256 | K. | 50 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 257 | S. | 40 | H. M. | ,, | 11.5 | V = o. | | |
| ,, | 258 | G. | 50 | ,, | ,, | 11 | 1·75 m. | VI ,, | |
| ,, | 259 | V. | 55 | ,, | Hard.—R. E. | 11·5 | 2·25 m. | I ,, | Iridectomy. |
| ,, | 260 | M. S. | 76 | M. M. | C. N.—R. E. | 11 | 2·5 m. | I ,, | |
| ,, | 261 | M. G. | 76 | ,, | Morgagnian.—R. E. | 12 | 2 m. | VI ,, | Iridectomy. |
| ,, | 262 | G. | 40 | H. M. | C. N.—R. E. | 10·5 | 2·5 m. | I ,, | |
| ,, | 263 | S. N. | 50 | ,, | ,, | 11·5 | 2 m. | VI ,, | |
| ,, | 264 | V. | 50 | ,, | ,, | 10.5 | V = pl. | | |
| ,, | 265 | M. N. | 55 | ,, | Hard.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 266 | M. M. | 52 | E. M. | Hard.—L. E. | 12 | 2 m. | Swellen 2·25 D. | |
| ,, | 267 | A. | 45 | H. F. | C. N.—L. E. | 11 | 1·75 m. | VI Jaeger | |
| ,, | 268 | T. | 40 | ,, | Hard.—L. E. | 11·5 | 1 m. | X ,, | |
| ,, | 269 | A. | 55 | ,, | C. N.—L. E. | 12 | 1·75 m. | VIII ,, | |
| ,, | 270 | M. | 45 | ,, | ,, | 10·5 | 2 m. | VI ,, | Escape of vitreous. |
| ,, | 271 | M. | 60 | ,, | Hard.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 272 | K. | 50 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 273 | K. | 50 | ,, | C. N.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 274 | L. N. | 55 | H. M. | Hard.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 275 | M. G. | 45 | ,, | C. N.—L. E. | 12·5 | 2·5 m. | VI ,, | |
| ,, | 276 | K. S. | 55 | M. M. | Hard.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 277 | S. S. | 40 | ,, | C. N.—L. E. | 12·5 | 2·5 m. | VI ,, | |
| ,, | 278 | S. | 50 | ,, | ,, | 11·5 | 2 m. | VI ,, | |
| ,, | 279 | M. M. | 60 | H. M. | ,, | 11 | 2 m. | VI ,, | |
| ,, | 280 | J. M. B. | 53 | E. M. | ,, | 12 | 2 m. | Swellen 1·75 D. | |
| ,, | 281 | S. P. | 55 | H. M. | C. N.—R. E. | 10 | 2·5 m. | I Jaeger | |
| Feb. 11 | 282 | B. | 45 | H. F. | ,, | 11·5 | 2·5 m. | VI ,, | |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. +10 D. | Result of Vision. +16 D. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 1893. | | | | | | m.m. | | | |
| Feb. 11 | 283 | D. | 50 | H. F. | Hard.—R. E. | 12 | 1·75 m. | VI Jaeger | Iridectomy (vectis used). |
| ,, | 284 | T. | 45 | ,, | C. N.—R. E. | 11 | 1·75 m. | VIII ,, | Escape of vitreous. |
| ,, | 285 | M. | 60 | ,, | Hard.—R. E. | 11 | 2·5 m. | I ,, | |
| ,, | 286 | K. | 60 | ,, | C. N.—R. E. | 11 | 1·75 m. | VIII ,, | |
| ,, | 287 | B. | 60 | H. M. | ,, | 11·5 | 2 m. | VI ,, | |
| ,, | 288 | V. | 45 | ,, | ,, | 10·5 | 1·75 m. | VIII ,, | |
| ,, | 289 | K. | 52 | ,, | ,, | 11 | 2 m. | VI ,, | Iridectomy. |
| ,, | 290 | K. | 60 | ,, | ,, | 10·5 | 2 m. | VI ,, | |
| ,, | 291 | T. T. | 46 | M. M. | ,, | 10 | 2 m. | VI ,, | |
| ,, | 292 | T. | 35 | H. F. | C. N.—L. E. | 11 | 2 m. | VI ,, | |
| ,, | 293 | Mrs. H. | 64 | E. F. | ,, | 10·5 | Counts fingers at 1 foot | | |
| ,, | 294 | K. | 5 | H. F. | ,, | 10 | V=pl. | | Iridectomy (vectis used). |
| ,, | 295 | M. | 59 | ,, | Morgagnian.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 296 | V. | 55 | H. M. | C. N.—L. E. | 11 | 2·25 m. | I ,, | |
| ,, | 297 | S. P. | 55 | ,, | ,, | 11 | 1 m. | XIV ,, | |
| ,, | 298 | V. R. | 60 | ,, | ,, | 11 | 2·25 m. | VI ,, | |
| ,, | 299 | G. | 40 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 300 | R. | 30 | ,, | Traumatic. | 11 | Counts fingers at 1 foot | | |
| Feb. 18 | 301 | T. | 35 | H. F. | C. N.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 302 | C. | 60 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 303 | M. | 60 | ,, | Morgagnian.—R. E. | 11 | 2 m. | VIII ,, | Escape of watery vitreous. |
| ,, | 304 | S. | 60 | ,, | C. N.—R. E. | 10·5 | V=o. | | Iridectomy. |
| ,, | 305 | E. | 60 | ,, | ,, | 12 | 1 m. | XIV ,, | |
| ,, | 306 | K. B. | 60 | M. F. | ,, | 11 | 2 m. | VI ,, | Iridectomy. |
| ,, | 307 | A. | 43 | H. F. | ,, | 11 | 4 m. | I ,, | |
| ,, | 308 | L. | 35 | ,, | ,, | 11·5 | 3·5 m. | I ,, | |
| ,, | 309 | V. | 60 | H. M. | ,, | 11·5 | 3 m. | VI ,, | |
| ,, | 310 | B. | 45 | H. F. | C. N.—L. E. | 12 | 2·25 m. | VIII ,, | |
| ,, | 311 | D. | 50 | ,, | Hard.—L. E. | 12 | 1 m. | X ,, | |
| ,, | 312 | A. | 50 | ,, | C. N.—L. E. | 12 | V=pl. | | |
| ,, | 313 | K. | 60 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 314 | A. N. | 45 | H. M. | ,, | 11 | 1 m. | XIV ,, | |
| ,, | 315 | S. A. | 70 | M. M. | Hard, black.—L. E. | 12 | V=o. | | Iridectomy. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ” | 317 | K. S. | 55 | M. M. | ” | 11 | V = o. | | | |
| ” | 318 | V. R. | 55 | H. M. | Hard.—L. E. | 12 | 2·75 m. | I | ” | |
| ” | 319 | V. M. | 55 | ” | Traumatic. | 10·5 | V = pl. | | | |
| Feb. 22 | 320 | C. | 20 | H. F. | Congenital.—R. E. | 11 | Counts fingers at 2 m. | | | Iridectomy. |
| Feb. 25 | 321 | M. | 60 | ” | C. N.—R. E. | 10·25 | 2 m. | VI | ” | |
| ” | 322 | H. | 60 | ” | ” | 12 | 2 m. | VI | ” | |
| ” | 323 | M. | 40 | ” | ” | 11 | 2 m. | VI | ” | |
| ” | 324 | R. | 50 | ” | ” | 11 | Counts fingers at ½ m. | | | |
| ” | 325 | A. N. | 45 | H. M. | ” | 11 | 2 m. | VI | ” | Iridectomy. |
| ” | 326 | V. K. R. | 55 | ” | Hard.—R. E. | 12 | 2 m. | VI | ” | Bulky Lens. |
| ” | 327 | M. | 60 | ” | C. N.—R. E. | 11·5 | 1·75 m. | X | ” | |
| ” | 328 | R. | 50 | ” | ” | 11·5 | Counts fingers at 1 m. | | | Slight escape of vitreous (vectis used). |
| ” | 329 | A. R. | 25 | M. M. | ” | 11·5 | 1 m. | XIV | ” | Escape of vitreous (vectis used). |
| ” | 330 | G. R. | 36 | H. M. | Morgagnian. | 11 | 6 m. | I | ” | |
| ” | 331 | O. R. | 40 | ” | C. N.—R. E. | 11·5 | 2 m. | VI | ” | |
| ” | 332 | K. N. | 50 | ” | ” | 11·5 | Counts fingers at 2 m. | | | Iridectomy. |
| ” | 333 | V. G. | 70 | ” | Hard, black. | 10·5 | ” | ” | | |
| ” | 334 | N. | 50 | H. F. | Morgagnian.—L. E. | 11 | 1 m. | XIV | ” | Escape of vitreous. |
| ” | 335 | C. | 60 | ” | C. N.—L. E. | 11 | V = o. | | | |
| ” | 336 | N. | 50 | ” | ” | 11·5 | 2 m. | VI | ” | |
| ” | 337 | M. | 60 | ” | ” | 11·5 | 2 m. | VIII | ” | |
| ” | 338 | G. | 55 | N. C. F. | ” | 11 | 2·5 m. | I | ” | |
| ” | 339 | V. | 60 | H. M. | ” | 11·5 | 3 m. | VI | ” | |
| March 4 | 340 | E. | 60 | H. F. | C. N.—R. E. | 11 | 2 m. | VIII | ” | |
| ” | 341 | A. | 48 | ” | ” | 12 | 4 m. | I | ” | |
| ” | 342 | T. L. | 60 | ” | ” | 10·5 | 1·75 m. | VIII | ” | |
| ” | 343 | P. | 57 | ” | ” | 11 | 2 m. | VI | ” | |
| ” | 344 | T. | 70 | ” | Hard.—R. E. | 12 | V = pl. | | | Iridectomy. |
| ” | 345 | M. | 60 | H. M. | C. N.—R. E. | 10 | 2 m. | VI | ” | |
| ” | 346 | V. | 42 | ” | ” | 11·5 | 2·5 m. | VI | ” | |
| ” | 347 | V. K. | 70 | ” | ” | 11 | 2·25 m. | VI | ” | Iridectomy (Bulky lens). |
| ” | 348 | L. C. | 60 | ” | Hard.—R. E. | 12 | 2·5 m. | VI | ” | |
| ” | 349 | N. | 50 | ” | ” | 11 | 2·75 m. | I | ” | |
| ” | 350 | R. C. | 65 | ” | C. N.—L. E. | 11 | V = pl. | | | |
| ” | 351 | L. | 40 | H. F. | ” | 11 | 6 m. | I | ” | |
| ” | 352 | L. | 60 | ” | Morgagnian.—L. E. | 12 | 1·75 m. | VIII | ” | |
| ” | 353 | H. | 60 | ” | C. N.—L. E. | 12 | 2 m. | VI | ” | |
| ” | 354 | M. | 60 | ” | ” | 10 | V = pl. | | | Iridectomy. |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. +10 D. | Result of Vision. +16 D. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 1893. | | | | | | m.m. | | | |
| March 4 | 355 | M. | 40 | H. F. | C. N.—L. E. | 11·5 | 1 m. | XIV Jaeger | |
| ,, | 356 | T. | 50 | H. M. | Morgagnian.—L. E. | 12 | 2·25 m. | VI ,, | |
| ,, | 357 | N. | 60 | ,, | C. N.—L. E. | 12 | 2·25 m. | VI ,, | |
| ,, | 358 | V. M. | 60 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 359 | G. R. | 63 | ,, | ,, | 12 | 3 m. | I ,, | |
| ,, | 360 | G. | 60 | ,, | ,, | 11·5 | 1 m. | XIV ,, | |
| ,, | 361 | G. R. | 36 | ,, | ,, | 11 | 4·5 m. | I ,, | |
| ,, | 362 | R. | 34 | ,, | ,, | 12 | 2 m. | VI ,, | Iridectomy. |
| ,, | 363 | C. | 61 | ,, | Morgagnian.—L. E. | 11 | 1·5 m. | VIII ,, | |
| ,, | 364 | L. | 60 | ,, | ,, | 12 | 1·5 m. | VIII ,, | Iridectomy. |
| March 11 | 365 | M. | 45 | H. F. | C. N.—R. E. | 10·5 | 2 m. | VIII ,, | |
| ,, | 366 | A. | 50 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 367 | A. | 40 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 368 | O. | 35 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 369 | L. | 40 | ,, | ,, | 11 | 2 m. | VIII ,, | |
| ,, | 370 | V. R. | 45 | ,, | ,, | 11 | V = pl. | | |
| ,, | 371 | C. | 55 | H. M. | ,, | 12 | 1 m. | X ,, | Iridectomy. |
| ,, | 372 | B. C. | 70 | ,, | Hard, black.—R. E. | 11·5 | 3 m. | VI ,, | ,, |
| ,, | 373 | R. P. | 70 | ,, | C. N.—R. E. | 9·5 | 2 m. | VIII ,, | |
| ,, | 374 | J. C. | 60 | ,, | Dark.—R. E. | 12 | V = o. | | Escape of vitreous. |
| ,, | 375 | V. G. | 58 | ,, | Morgagnian.—R. E. | 11.5 | 2·75 m. | VI ,, | |
| ,, | 376 | A. | 47 | ,, | C. N.—R. E | 12 | 2 m. | VI ,, | |
| ,, | 377 | R. | 22 | H. F. | ,, | 11 | V = pl. | | Iridectomy. |
| ,, | 378 | K. | 50 | ,, | Hard.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 379 | P. | 50 | ,, | C. N.—L. E. | 11 | 1·5 m. | X ,, | |
| ,, | 380 | H. B. | 60 | M. F. | Hard.—L. E. | 12 | Counts fingers at 1 m. | | |
| ,, | 381 | M. | 40 | H. M. | C. N.—L. E. | 12 | 3 m. | VI ,, | |
| ,, | 382 | E. M. | 60 | ,, | ,, | 12 | 1 m. | XIV ,, | |
| ,, | 383 | L. C. | 60 | ,, | ,, | 12 | 1·5 m. | XIV ,, | |
| ,, | 384 | B. B. | 35 | H. F. | C. N.—R. E. | 12 | 2·5 m. | VI ,, | |
| ,, | 385 | G. | 20 | H. M. | C. N.—L. E. | 11 | 1 m. | XIV ,, | Vectis used (vitreous escaped). |
| ,, | 386 | L. | 50 | ,, | ,, | 10·5 | 1·70 m. | X ,, | |
| ,, | 387 | V. | 50 | ,, | Morgagnian.—L. E. | 11 | 3 m. | I ,, | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| March 18 | 388 | K. | 45 | H. F. | Morgagnian.—R. E. | 11 | 1·75 m. | VIII Jaeger | |
| ,, | 389 | N. | 40 | ,, | C. N.—R. E. | 12 | 1·5 m. | X ,, | |
| ,, | 390 | S. | 52 | ,, | ,, | 11 | 3 m. | I ,, | |
| ,, | 391 | S. P. | 55 | H. M. | Morgagnian.—R. E. | 11 | V = pl. | | |
| ,, | 392 | C. S. | 48 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 393 | L. | 50 | ,, | C. N.—R. E. | 10·5 | 2 m. | VI ,, | |
| ,, | 394 | K. S. | 55 | ,, | ,, | 10 | 3 m. | I ,, | |
| ,, | 395 | V. | 30 | ,, | ,, | 10.5 | 3 m. | I ,, | |
| ,, | 396 | M. C. | 30 | ,, | ,, | 11·5 | 1·5 m. | X ,, | |
| ,, | 397 | C. | 50 | H. F. | C. N.—L. E. | 11 | 1·5 m. | X ,, | |
| ,, | 398 | M. | 45 | ,, | Morgagnian. | 11 | 2 m. | VIII ,, | |
| ,, | 399 | O. | 60 | H. M. | ,, | 11 | 2 m. | VI ,, | |
| ,, | 400 | M. | 35 | H. F. | C. N.—L. E. | 11.5 | 2 m. | VI ,, | |
| ,, | 401 | P. | 45 | ,, | ,, | 11 | 2 m. | VI ,, | |
| ,, | 402 | A. | 45 | H. M. | Traumatic. | 11·5 | 1 m. | X ,, | |
| ,, | 403 | J. | 50 | ,, | Hard.—L. E. | 12 | 3 m. | I ,, | |
| ,, | 404 | V. G. | 58 | ,, | C. N.—L. E. | 11·5 | 2 m. | VI ,, | |
| ,, | 405 | R. | 70 | ,, | ,, | 9·5 | 1 m. | XIV ,, | |
| ,, | 406 | R. C. | 48 | ,, | ,, | 10·5 | 1·5 m. | X ,, | |
| ,, | 407 | A. | 47 | ,, | ,, | 12 | 2 m. | VI ,, | |
| March 25 | 408 | V. | 46 | H. F. | Morgagnian.—R. E. | 11 | 2·5 m. | VI ,, | Veetis. |
| ,, | 409 | L. | 50 | ,, | C. N.—R. E. | 11·5 | 1·5 m. | VIII ,, | |
| ,, | 410 | N. L. | 30 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 411 | M. | 40 | ,, | ,, | 10·5 | 3·5 m. | I ,, | |
| ,, | 412 | T. | 60 | ,, | ,, | 12 | 2·5 m. | VI ,, | |
| ,, | 413 | R. | 50 | ,, | ,, | 12 | 2 m. | VI ,, | |
| ,, | 414 | G. N. | 60 | H. M. | Hard.—R. E. | 11 | 4 m. | I ,, | Mooren's operation. |
| ,, | 415 | R. | 30 | ,, | C. N.—R E. | 12 | 2 m. | VIII ,, | |
| ,, | 416 | C. S. | 28 | ,, | ,, | 11.5 | Counts fingers at $\frac{1}{2}$ m. | | Mooren's operation. |
| ,, | 417 | J. | 50 | ,, | C. N.—L. E. | 11 | 1·5 m. | X ,, | |
| ,, | 418 | N. | 50 | ,, | Hard.—L. E. | 12 | 2 m. | VI ,, | |
| ,, | 419 | K. | 45 | H. F. | C. N.—L. E. | 12 | 1·75 m. | VIII ,, | |
| ,, | 420 | S. | 52 | N. C. F. | Hard.—L. E. | 11 | Counts fingers at 1 m. | | Vectis used. |
| ,, | 421 | A. | 60 | H. F. | C. N.—L. E. | 12 | 2·5 m. | VI ,, | With Iridectomy. |
| ,, | 422 | J. | 60 | ,, | ,, | 10 | 1·5 m. | VIII ,, | |
| ,, | 423 | M. | 55 | ,, | ,, | 12 | 1 m. | XIV ,, | |
| ,, | 424 | S. B. | 30 | ,, | ,, | 11·5 | 1·75 m. | VI ,, | |
| ,, | 425 | K. S. | 55 | H. M. | Morgagnian.—L. E. | 11 | 3 m. | I ,, | |
| ,, | 426 | M. K. | 30 | M. M. | C. N.—L. E. | 11 | 1.5 m. | X ,, | |

| Date. | No. | Name. | Age. | Race and Sex. | Nature of Cataract. | Diameter of Cornea. | Result of Vision. | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | +10 D. | +16 D. | |
| | | | | | | m.m. | | | |
| 1893. March 25 | 427 | B. N. | 60 | H. M. | C. N.—L. E. | 11 | 2 m. | VI Jaeger | |
| ,, | 428 | N. | 54 | ,, | ,, | 11·5 | V = o. | | |
| March 29 | 429 | M. | 55 | H. F. | C. N.—R. E. | Not taken | 5 m. | I ,, | |
| ,, | 430 | S. | 70 | H. M. | ,, | ,, | V = o. | | |
| ,, | 431 | C. N. | 60 | ,, | ,, | ,, | 2 m. | VI ,, | |
| ,, | 432 | H. | 60 | ,, | ,, | ,, | 3 m. | I ,, | |
| ,, | 433 | M. | 50 | ,, | ,, | ,, | 3·5 m. | VI ,, | |
| ,, | 434 | P. | 50 | ,, | Morgagnian.—L. E. | ,, | 2 m. | VIII ,, | |
| ,, | 435 | K. N. | 50 | ,, | Hard.—L. E. | ,, | 1·75 m. | VIII ,, | With Iridectomy. |
| April 12 | 436 | M. B. | 50 | M. F. | C. N.—R. E. | 12 | 2 m. | VI ,, | |
| ,, | 437 | Y. | 60 | H. F. | Morgagnian. | 11·5 | V = o. | | Mooren's operation. |
| ,, | 438 | T. | 40 | ,, | C. N.—R. E. | 11 | 2 m. | VI ,, | |
| ,, | 439 | M. | 50 | ,, | ,, | 12 | 2·5 m. | I ,, | |
| ,, | 440 | R. | 45 | ,, | ,, | 11·5 | 3 m. | VI ,, | |
| ,, | 441 | S. B. | 50 | M. F. | ,, | 12 | 2·5 m. | I ,, | |
| ,, | 442 | S. B. | 30 | H. F. | ,, | 11·5 | 1·5 m. | X ,, | |
| ,, | 443 | S. A. | 70 | H. M. | Hard.—R. E. | 11 | 1·5 m. | VIII ,, | |
| ,, | 444 | P. | 50 | ,, | C. N.—R. E. | 11·5 | 2 m. | VI ,, | With Iridectomy. |
| ,, | 445 | R. | 45 | ,, | Morgagnian.—R. E. | 12 | 2 m. | VI ,, | |
| ,, | 446 | S. C. | 48 | ,, | C. N.—R. E. | 11 | 1·5 m. | VIII ,, | |
| ,, | 447 | C. | 70 | ,, | Hard.—R. E. | 12·5 | 2 m. | VIII ,, | Slight escape of vitreous. |
| ,, | 448 | C. | 45 | ,, | C. N.—R. E. | 11 | 2·5 m. | I ,, | |
| ,, | 449 | N. R. | 60 | ,, | Morgagnian.—R. E. | 12·5 | 6 m. | VI ,, | |
| ,, | 450 | N. | 55 | ,, | C. N.—R. E. | 12 | 3·25 m. | I ,, | With Iridectomy. |
| ,, | 451 | L. | 35 | H. F. | C. N.—L. E. | 11·5 | V = o. | | Escape of watery vitreous. |
| ,, | 452 | C. N. | 60 | H. M. | ,, | 11 | V = o. | | |
| ,, | 453 | M. P. | 50 | ,, | Hard.—L. E. | 11 | 6 m. | I ,, | |
| ,, | 454 | M. N. | 82 | ,, | ,, | 11 | 1 m. | XIV ,, | With Iridectomy. |
| ,, | 455 | K. | 55 | F. H. | C. N.—R. E. | 11·5 | 1·5 m. | VIII ,, | |
| ,, | 456 | R. | 65 | ,, | Morgagnian.—R. E. | 12 | 2 m. | VI ,, | |
| ,, | 457 | V. | 70 | ,, | Hard.—R. E. | 12 | 1·75 m. | VIII ,, | Slight escape of vitreous. |
| ,, | 458 | L. | 45 | ,, | Morgagnian.—R. E. | 11 | 1·5 m. | X ,, | |
| ,, | 459 | A. | 50 | ,, | Hard.—R. E. | 11 | V = pl. | | With Iridectomy. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| April 15 | 460 | K. | 45 | H. F. | C. N.—R. E. | 11 | 1·75 m. | X | Jaeger |
| " | 461 | M. | 30 | H. M. | " | 12 | V = o. | | Deep-seated disease of the eye (Hemiplegia). |
| " | 462 | N. G. | 67 | " | Hard.—R. E. | 12 | Reads fingers at ½ m. | | |
| " | 463 | V. M. | 60 | " | " | 12 | V = pl. | | Iridectomy (slight escape of vitreous). |
| " | 464 | P. N. | 70 | " | C. N.—L. E. | 12 | Counts fingers at 1 m. | | Slight escape of vitreous. |
| " | 465 | M. | 25 | " | Traumatic.—R. E. | 12 | 2·5 m. | VI " | Internal capsulotomy (slight escape of vitreous. |
| " | 466 | V. | 70 | " | Hard.—R. E. | 12 | V = o. | | Iridectomy. |
| " | 467 | M. G. | 55 | " | C. N.—R. E. | 11 | 2·75 m. | VI " | |
| " | 468 | C. | 70 | H. F. | C. N.—L. E. | 11 | 2 m. | VI " | |
| " | 469 | M. | 55 | " | Morgagnian.—L. E. | 11 | 5 m. | I " | With Iridectomy. |
| " | 470 | R. | 65 | H. M. | C. L.—L. E. | 11·5 | V = pl. | | |
| " | 471 | M. M. | 56 | " | " | 11·5 | 2·75 m. | VI " | |
| " | 472 | T. | 60 | " | " | 11 | 2·75 m. | I " | |
| " | 473 | A. | 45 | " | " | 11·5 | 2·5 m. | VI " | |
| April 22 | 474 | R. R. | 60 | " | " | 12 | 1·75 m. | X " | |
| " | 475 | M. | 55 | H. F. | C. N.—R. E. | 11 | 1·5 m. | VI " | |
| " | 476 | B. L. | 50 | " | " | 11 | 2 m. | VI " | |
| " | 477 | T. | 45 | " | " | 10 | 1·5 m. | X " | With Iridectomy. |
| " | 478 | V. N. | 55 | H. M. | Morgagnian.—R. E. | 12 | 1·75 m. | X " | |
| " | 479 | M. | 55 | " | " | 11 | 2·5 m. | VI " | |
| " | 480 | A. | 45 | " | C. N.—R. E. | 12 | 2·5 m. | VI " | |
| " | 481 | N. | 35 | " | " | 11 | 2 m. | X " | |
| " | 482 | A. S. | 50 | M. M. | " | 11·5 | 5 m. | VIII " | |
| " | 483 | M. N. | 50 | H. M. | " | 11 | V = pl. | | |
| " | 484 | K. N. | 50 | " | " | 10·5 | 1·75 m. | VIII " | With Iridectomy. |
| " | 485 | R. R. | 60 | E. M. | C. N.—L. E. | 11 | 2 m. | VI " | |
| " | 486 | T. | 50 | H. F. | " | 12 | 1·75 m. | VI " | Mooren's operation. |
| " | 487 | M. | 50 | M. F. | " | 12 | Counts fingers at ½ m. | | |
| " | 488 | P. | 60 | H. F. | " | 11·5 | " | " | Large escape of vitreous. |
| " | 489 | L. | 50 | " | " | 11 | 1·5 m. | VIII " | |
| " | 490 | K. | 55 | " | C. N.—R. E. | 11·5 | 2 m. | VI " | |
| " | 491 | M. | 50 | " | Morgagnian.—L. E. | 12 | 2·25 m. | I " | |
| " | 492 | R. | 45 | " | C. N.—L. E. | 12 | 3 m. | VIII " | |
| " | 493 | S. B. | 50 | M. F. | " | 12 | 2 m. | VI " | |
| " | 494 | N. | 57 | H. M. | " | 12 | 1·5 m. | X " | |
| " | 495 | R. | 60 | N. C. M. | Hard.—L. E. | 11 | 2 m. | X " | |
| " | 496 | M. | 45 | H. M. | Morgagnian.—L. E. | 11 | 1·5 m. | X " | |
| " | 497 | C. N. | 70 | " | C. N.—L. E. | 11 | V = pl. | | |
| " | 498 | T. | 45 | N. C. M. | " | 11 | 1·5 m. | X " | |
| " | 499 | N. R. | 60 | H. M. | " | 13 | 3·5 m. | VI " | |
| " | 500 | R. | 60 | H. F. | C. N.—R. E. | 12 | 5 m. | XIV " | |